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**A CONCEPTUAL WATER RESOURCE ACCOUNTS  
FRAMEWORK IN THE PHILIPPINES**

**A Thesis  
Submitted in Partial Fulfilment  
of the Requirements for the Degree in  
Master of Agricultural Economics**

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## ABSTRACT

Sustainable development aims to find patterns of production and consumption that can be continued indefinitely without degrading the natural stock -- including 'natural capital' stocks. By so doing care is taken that future generations will have similar options open to them as the current generation.

Achievement of sustainable development might bring about conflicts since sustainability implies the setting of limits on resource use. This will imply costs and the need to make decisions about trade-offs. Especially in developing countries, such decisions will be difficult to make and will require good data and information.

To know if development is progressing sustainably, full account needs to be taken of improvements in or deterioration of the stock of natural capital. This aspect of resource monitoring is called natural resource accounting (NRA). The tool of NRA addresses some of the shortcomings in the current system of national accounts (SNA), such as the treatment of defensive expenditures, environmental degradation, and the physical depletion of natural assets. Neglect of accounting for the use, degradation and depletion of natural resources may lead to serious implication for a country.

Economists in different countries have attempted to adopt, or modify the current SNA through accounting activities using two approaches: physical and monetary accounting of changes in the resource stock over time. Natural resource accounting extensively used the physical approach as it achieves a relatively complete and consistent set of physical accounts for both stocks and flows of the natural and environmental capital.

The initial attempt by some has inspired the other to follow. Steps taken with regard to natural resource accounting, in different countries, vary the importance of natural resources in the countries overall development, and the priorities and needs of

that country. In the Philippines, priority has been given to resource accounting for fresh water with the aim to improve the management and conservation of this resource as it has become an ecological flashpoint in this country.

In most developing countries, one of the major impediments to adjusting the SNA by using NRA, is the incompleteness, inaccuracy, and fragmentation of data and information and, the skepticism held by many regarding the availability of skills within those countries to undertake the work. Further, much controversy has arisen among practitioners regarding a common numeraire for the NRA methodology and possible valuation of resource stock changes.

This study basically builds a conceptual water resource accounts framework that should be viewed as an 'ideal'. Specifically, in developing this framework the study aims at demonstrating the need for such accounts and points to research and data gathering that needs to take place to make NRA a reality in the Philippines. The study builds on overseas work that has taken place in this area.

The overall conclusion of the study is that the conceptualised framework cannot, as yet, be implemented in the Philippines. The reasons are explained and concern in the main data availability and skills. However, in the building of this framework and the matching of the available data, clear guidelines have been discovered with regard to data gathering, needed accuracy, agency involvement, manpower requirement, and integration with other NRA efforts in the Philippines.

The construction of the framework is that be seen as a practical start to think clearly about water, its use and conservation. The framework can now be used as a 'template' to guide further research work and data collection, and in due time become resource accounts for freshwater to aid in decision making process to achieve a sustainable future.

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